

REMARKS

1. After entry of this paper, claims 1-9 and 11-34 are pending in the application.
Reconsideration of this application is respectfully requested.
2. Claims 18-33 stand withdrawn from consideration.
3. Claims 1, 2 11-14 and 16 stand rejected under 35 U.S.C. 102(b) as being anticipated by USP 5255067 to Carrabba et al. (Carrabba).

Claim 1 recites,

... providing a metal surface having at least one of a size and a shape that increases surface enhanced Raman scattering;

exposing the metal surface to a fluid suspected of containing the at least one of a chemical and a related species, the at least one of the chemical and the related species adsorbing to the metal surface if present in the fluid;

exciting the metal surface with light to cause the metal surface to produce the surface enhanced Raman scattering

In contrast, Carrabba describes an adsorbing layer 14 that coats the SERS-active metal layer 12. The species in Carrabba adsorbs to the adsorbing layer 14. Thus, Carrabba does not describe "species adsorbing to the metal surface," as required in claim 1.

Further, Carrabba does not expressly or inherently describe any embodiment in the abstract or column 3 line 40 through column 4, line 62, where the species adsorbs to the metal surface, as argued by the Examiner. More specifically, Carrabba teaches an interpenetrating embodiment (shown in FIG. 6) wherein species 22 adsorbs to the adsorbing layer 14a. Carrabba does not teach or suggest species 22 adsorbing to the metal islands 15, as argued by the Examiner.

In addition, Carrabba teaches that the species is initially present in the gas phase, whereas claim 1 requires that the related species is present in a fluid.

For at least the above reasons, claim 1 and corresponding dependent claims 2 11-14 and 16 distinguish over Carrabba.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

4. Claims 3-9 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Carrabba.

Claims 3-9 and 15 depend from claim 1 and therefore, each require, inter alia, "... providing a metal surface ... exposing the metal surface to a fluid suspected of containing the at least one of a chemical and a related species, the at least one of the chemical and the related species adsorbing to the metal surface if present in the fluid ..."

In contrast, Carrabba describes an adsorbing layer 14 that coats the SERS-active metal layer 12 and species that adsorbs to the adsorbing layer 14. Thus, Carrabba does not teach or suggest "species adsorbing to the metal surface," as required in each of claims 3-9 and 15.

Further, Carrabba does not teach or suggest any embodiment in the abstract or column 3 line 40 through column 4, line 62, where the species adsorbs to the metal surface, as argued by the Examiner. More specifically, Carrabba teaches an interpenetrating embodiment (shown in FIG. 6) wherein species 22 adsorbs to the adsorbing layer 14a. Carrabba does not teach or suggest species 22 adsorbing to the metal islands 15, as argued by the Examiner.

Still further, Carrabba teaches that the species is initially present in the gas phase, whereas claims 3-9 and 15 each requires that the related species is present in a fluid.

For at least the above reasons, claims 3-9 and 15 distinguish over Carrabba.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

5. Claim 17 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Carrabba as applied to claim 1, and further in view of WO 98/59234 to Carron et al. (Carron).

It is respectfully submitted that Carrabba in view of Carron fail to teach or suggest the subject matter recited in claim 17. Specifically, claim 17 depends from claim 1 and therefore, requires, inter alia, "... providing a metal surface ... exposing the metal surface to a fluid suspected of containing the at least one of a chemical and a related species, the at least one of the chemical and the related species adsorbing to the metal surface if present in the fluid ..."

In contrast, Carrabba describes an adsorbing layer 14 that coats the SERS-active metal layer 12 and species that adsorbs to the adsorbing layer 14. Thus, Carrabba does not teach or suggest "species adsorbing to the metal surface," as required in claim 17.

Further, Carrabba does not teach or suggest any embodiment in the abstract or column 3 line 40 through column 4, line 62, where the species adsorbs to the metal surface, as argued by the Examiner. More specifically, Carrabba teaches an interpenetrating embodiment (shown in FIG. 6) wherein species 22 adsorbs to the adsorbing layer 14a. Carrabba does not teach or suggest species 22 adsorbing to the metal islands 15, as argued by the Examiner.

Still further, Carrabba teaches that the species is initially present in the gas phase, whereas claim 17 requires that the related species is present in a fluid.

Carron fails to cure the deficiencies of Carrabba, as Carron does not teach or suggest "... providing a metal surface ... exposing the metal surface to a fluid suspected of containing the at least one of a chemical and a related species, the at least one of the chemical and the related species adsorbing to the metal surface if present in the fluid ..."

For at least the above reasons, claim 17 distinguishes over Carrabba in view of Carron.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

6. New claim 34 recites a method for detecting at least one of a chemical and a species related to the chemical, comprising the steps of:

providing a plurality of metal nanoparticle islands on a surface, the plurality of metal nanoparticle islands capable of producing surface enhanced Raman scattering;

exposing the plurality of metal nanoparticle islands to a fluid suspected of containing the at least one of a chemical and a related species, the at least one of the chemical and the related species adsorbing to metal surfaces of the plurality of metal nanoparticle islands if present in the fluid;

exciting the metal surfaces of the plurality of metal nanoparticle islands with light to cause the metal surfaces to produce the surface enhanced Raman scattering; and

analyzing data obtained from the surface enhanced Raman scattering to determine the existence of the at least one of a chemical and a related species in the fluid.

It is respectfully submitted that the prior art cited of record fails to describe, teach or suggest the subject matter of new claim 34.

7. The Director is authorized to charge the fees for the three (3) month extension of time and the RCE to Deposit Account No. 04-1679. The Director is also authorized to charge any

payment required under 37 CFR 1.16 and any patent application processing fee under 37 CFR 1.17, associated with this paper, and/or credit any overpayment to Deposit Account No. **04-1679**.

Respectfully submitted,

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/Paul A. Schwarz/

Paul A. Schwarz

Registration No. 37,577

Duane Morris LLP

P.O. Box 5203

Princeton, New Jersey 08543-5203

Tel: (609) 631-2446

Fax: (609) 631-2401